Effects of Stricter Environmental Regulations on Resource Development

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As technology and our ability to alter the natural world expand, it may lead to change in the level or type of externalities that economic activity place on society. This may lead to a change in the laws and regulations governing activity to limit the new externalities. While new regulations will change the distribution of rents around, welfare is impacted if the regulations alter the pace of economic activity. This analysis seeks to understand whether changes in oil and gas regulation brought about by the shale revolution have restricted the pace of drilling and production. This hypothesis is tested using data on North Dakota and Montana both before and after North Dakota increased the level of bonding required to operate in the state as well as stricter rules on waste disposal. Using regression discontinuity and difference-in-difference methods, results generally find that the new regulations had no statistical impact on the pace of drilling and production. While the average impact was statistically indistinguishable from zero, it is found that smaller firms did reduce their production and exit at a higher rate than large firms. These results are instructive for policymakers who weigh the loss of economic welfare against improved environmental quality when deciding on new regulations.

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